In the Claims:

Please cancel claims 30-41 without prejudice and amend claims 29, 42, and 45-47 as follows:

29. (Amended) A method of amplifying a nucleic acid comprising:

A) providing a template having (i) a 3' end portion comprising a first region located 3' terminal and a first complementary region which, under suitable conditions, anneal to one another to form a first loop, (ii) a 5' end portion comprising a second region located 5' terminal and a second complementary region which, under suitable conditions, anneal to one another to form a second loop, and (iii) a region connecting the 3' end portion and the 5' end portion;

B) extending the 3' terminal of the template to the 5' end of the template by means of a polymerase having strand displacement activity, when the first region and first complementary region are annealed to one another to form the first loop, to form a template extension which includes a third region located 3' terminal and a third complementary region which are substantially the same as the second complementary region and second region, respectively, and which, under suitable conditions, anneal to one another to form a third loop;

C) annealing to the first loop of the extended template an oligonucleotide primer comprising at the 3' terminal a nucleotide sequence complementary to at least part of the first loop and at the 5' terminal a nucleotide sequence complementary to the first region of the template;

D) extending the oligonucleotide primer along the extended template, by means of a polymerase having strand displacement activity, to form a new template complementary to the template, thereby displacing the template extension formed during said extending in step B);

E) further extending the 3' terminal of the extended template to the 5' end of the extended template by means of a polymerase having strand displacement activity, when the third region and the third complementary region are annealed to one another to form the third loop, thereby displacing the new template from the extended template; and

F) repeating steps A)-E) using the new template as the template in step A), thereby amplifying the nucleic acid.

42. (Amended) The method according to claim 29 wherein each said extending is carried out in the presence of a melting temperature regulator.

5 ~~45.~~ (Amended) The method according to claim 1 ~~29~~, wherein said providing in step A) comprises:

A1) annealing a first oligonucleotide primer to a sample single-stranded nucleic acid molecule, the first oligonucleotide primer comprising a 3' terminal portion which anneals to the sample single-stranded nucleic acid molecule and a 5' terminal portion comprising substantially the same nucleotide sequence as an arbitrary region of the sample single-stranded nucleic acid molecule;

A2) extending the first oligonucleotide primer from its 3' terminal, using a suitable polymerase, to form a first single-stranded nucleic acid molecule comprising (i) a region complementary to at least a portion of the sample single-stranded nucleic acid molecule, and (ii) a 5' end portion comprising the 5' terminal portion of the first oligonucleotide primer;

A3) displacing the first single-stranded nucleic acid molecule from the sample single-stranded nucleic acid molecule;

A4) annealing a second oligonucleotide primer to the first single-stranded nucleic acid molecule, the second oligonucleotide primer comprising a 3' terminal portion which anneals to the first single-stranded nucleic acid molecule and a 5' terminal portion comprising substantially the same nucleotide sequence as an arbitrary region of the first single-stranded nucleic acid molecule;

A5) extending the second oligonucleotide primer from its 3' end, using a suitable polymerase, to form the template; and

A6) displacing the template from the first single-stranded nucleic acid molecule.

6 ~~46.~~ (Amended) The method according to claim 5 ~~45~~, wherein the first oligonucleotide primer used during said annealing in step A1) or the second oligonucleotide primer used during said annealing in step A4) is the same as the oligonucleotide primer used during said annealing in step C).

7 ~~47.~~ (Amended) A method of detecting a target nucleotide sequence in a sample comprising:

performing the method of amplifying according to claim 1 ~~29~~, wherein the template comprises the target nucleotide sequence, and

determining whether the target nucleotide sequence is present in the product of the method of amplifying.

Please add new claims 51-59 as set forth below:

11 51. (New) A method comprising:

A) providing a template having (i) a 3' end portion comprising a first region located 3' terminal and a first complementary region which, under suitable conditions, anneal to one another to form a first loop, (ii) a 5' end portion comprising a second region located 5' terminal and a second complementary region which, under suitable conditions, anneal to one another to form a second loop, and (iii) a region connecting the 3' end portion and the 5' end portion;

B) extending the 3' terminal of the template to the 5' end of the template by means of a polymerase having strand displacement activity, when the first region and first complementary region are annealed to one another to form the first loop, to form a template extension which includes a third region located 3' terminal and a third complementary region that are substantially the same as the second complementary region and second region, respectively, and which, under suitable conditions, anneal to one another to form a third loop;

C) annealing to the first loop of the extended template an oligonucleotide primer comprising at the 3' terminal a nucleotide sequence complementary to at least a part of the first loop and at the 5' terminal a nucleotide sequence complementary to the first region of the template;

D) extending the oligonucleotide primer along the extended template, by means of a polymerase having strand displacement activity, to form a new template complementary to the template; and

E) displacing the new template from the extended template.

12 52. (New) The method according to claim 11, wherein the new template has (i) a 3' end portion comprising the second region and the second complementary region located 3' terminal which, under suitable conditions, anneal to one another to form the second loop, (ii) a 5' end portion comprising the first region and the first complementary region located 5' terminal which, under suitable conditions, anneal to one another to form the first loop, and (iii) a region connecting the 3' end portion and the 5' end portion, said method further comprising:

F) extending the 3' terminal of the new template to the 5' end of the new template by means of a polymerase having strand displacement activity, when the second region and second complementary region are annealed to one another to form the second loop, to form a template extension which includes a third region and a third complementary region that are substantially the same as the first complementary region and first region, respectively, and which, under suitable conditions, anneal to one another to form a third loop;

G) annealing to the second loop of the extended new template a second oligonucleotide primer comprising at the 3' terminal a nucleotide sequence complementary to at least a part of the second loop and at the 5' terminal a nucleotide sequence complementary to the second complementary region of the template;

H) extending the second oligonucleotide primer along the extended new template, by means of a polymerase having strand displacement activity, to form a third template which is substantially the same as the template.

D cont'd

13 ~~53.~~ (New) The method according to claim 12 ~~52~~ further comprising:

I) displacing the third template from the new template.

14 ~~54.~~ (New) The method according to claim 11 ~~51~~ further comprising:

repeating steps B) through I) using the third template.

C5 cont

15 ~~55.~~ (New) The method according to claim 11 ~~51~~, wherein said extending in step D) displaces the sequence in the template extension which is complementary to the 5' end portion of the template, allowing the third region and the third complementary region to anneal to one another to form the third loop, said method further comprising:

further extending the 3' terminal of the extended template to the 5' end of the template, thereby displacing the new template in step E).

16 ~~56.~~ (New) The method according to claim 15 ~~55~~ further comprising:

annealing to the third loop a second oligonucleotide primer comprising at the 3' terminal a nucleotide sequence complementary to at least a part of the third loop and at the 5' terminal a nucleotide sequence complementary to the third region of the template; and

extending the 3' terminal of the second oligonucleotide primer by means of a polymerase having strand displacement activity.

17 ~~57.~~ (New) The method according to claim 11 ~~51~~ wherein each said extending is carried out in the presence of a melting temperature regulator.

18 ~~58.~~ (New) The method according to claim 17 ~~57~~, wherein the melting temperature regulator is betaine.

19 ~~59.~~ (New) The method according to claim 18 ~~58~~, wherein 0.2 to 3.0 M betaine is allowed to be present in the reaction solution.